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CLAIMS

1. A communications system comprising a first station capable of communication with a second station over a wireless channel, data being carried over the wireless channel in superframes, each superframe comprising a plurality of frames and each frame comprising a plurality of timeslots;

the system having:

a first mode of operation in which a full rate data channel for circuit switched communications is defined by the allocation to that data channel of corresponding time slots in each frame;

a second mode of operation in which two half rate data channels for circuit switched communications are defined by the allocation to each of those data channels of an equal number of corresponding time slots of frames in each superframe; and

a third mode of operation in which four quarter rate data channels for circuit switched communications are defined by the allocation to each of those data channels of an equal number of corresponding time slots of frames in each superframe.

2. A communication system as claimed in claim 1, further comprising:

a fourth mode of operation in which a full rate data channel for packet switched communication is defined by the allocation to that data channel of corresponding time slots in each frame;

a fifth mode of operation in which two half rate data channels for packet switched communications are defined by the allocation to each of those data channels of an equal number of corresponding time slots of frames in each superframe.

3. A communication system as claimed in claim 1 or 2, wherein equal numbers of time slots in each frame are allocated to the data channel for circuit switched communications and the data channel for packet switched communications.

4. A communication system as claimed in claim 1 or 2, wherein half the number of slots that are allocated to the data channel for packet switched

communications are allocated to the data channel for circuit switched communications.

5. A communication system as claimed in claim 1 or 2, wherein a quarter of the number of slots that are allocated to the data channel for packet switched communications are allocated to the data channel for circuit switched communications.

6. A communication system as claimed in any preceding claim, wherein the data channel for circuit switched communications is a half rate data channel.

7. A communication system as claimed in any preceding claim, wherein the data channel for circuit switched communications is a quarter rate data channel.

8. A communication system as claimed in any preceding claim, wherein the data channel for packet switched communications is a half rate data channel.

9. A communication system as claimed in any preceding claim, wherein control data for control of the data channel for packet switched communications is carried by the data channel for circuit switched communications.

10. A communication system as claimed in claim 9, wherein the control data is for control of transmission power and/or handover of the channel, link adaptation.

11. A communication system as claimed in claim 9 or 10, wherein the control data comprises a fast associated control channel and/or a slow associated control channel.

12. A communication system as claimed in any preceding claim, wherein the data channel for circuit switched communications is a conversational channel.

13. A communication system as claimed in any of claims 1 to 12, wherein the data channel for circuit switched communications is a background channel.

14. A communication system as claimed in any preceding claim, wherein the data channel for packet switched communications is allocated time slots during periods when the data channel for circuit switched communications is relatively inactive.

15. A communication system as claimed in claim 14, wherein the data channel for packet switched communications is allocated time slots during lulls in speech data being carried by means of the data channel for circuit switched communications.

16. A communication system as claimed in claim 1, wherein the wireless channel comprises a circuit switched air-interface, data being carried over said circuit switched air-interface via circuit switched data and packet data.

17. A communication system as claimed in claim 16, wherein said circuit switched air interface is connectable to a packet switched core network.

18. A communication system as claimed in any preceding claim, wherein the circuit switched channel is capable of operation via a circuit switched core network of the communication system.

19. A communication system as claimed in any preceding claim wherein the packet switched channel is capable of operation via a packet switched core network of the communication system.

20. A communication system as claimed in any preceding claim wherein the circuit switched channel is capable of operation via a packet switched core network and a circuit switched core network of the communication system.

21. A communication system comprising a first station capable of communication with a second station over a wireless channel; data being

carried over the wireless channel in superframes, each superframe comprising a plurality of frames and each frame comprising a plurality of timeslots; the system having a mode of operation in which a data channel for circuit switched communications is defined by the allocation to that channel of corresponding time slots of some of the frames of each superframe, and a data channel for packet switched communications is defined by the allocation to that channel of corresponding time slots of other of the frames of each superframe.

22. A communication system as claimed in claim 21, wherein equal numbers of time slots in each frame are allocated to the data channel for circuit switched communications and the data channel for packet switched communications.

23. A communication system as claimed in claim 21, wherein half the number of slots that are allocated to the data channel for packet switched communications are allocated to the data channel for circuit switched communications.

24. A communication system as claimed in claim 21, wherein a quarter of the number of slots that are allocated to the data channel for packet switched communications are allocated to the data channel for circuit switched communications.

25. A communication system as claimed in of claims 21 to 24, wherein the data channel for circuit switched communications is a half rate data channel.

26. A communication system as claimed in any of claims 21 to 25, wherein the data channel for circuit switched communications is a quarter rate data channel.

27. A communication system as claimed in any of claims 21 to 25, wherein the data channel for packet switched communications is a half rate data channel.

28. A communication system as claimed in any of claims 21 to 26, wherein control data for control of the data channel for packet switched communications is carried by the data channel for circuit switched communications.

29. A communication system as claimed in any of claims 21 to 28, wherein the control data is for control of transmission power and/or handover of the channel.

30. A communication system as claimed in claim 28 or 29, wherein the control data comprises a fast access control channel and/or a slow access control channel.

31. A communication system as claimed in any of claims 21 to 30, wherein the data channel for circuit switched communications is a conversational channel.

32. A communication system as claimed in any of claims 21 to 30, wherein the data channel for circuit switched communications is a background channel.

33. A communication system as claimed in of claims 21 to 32, wherein the data channel for packet switched communications is allocated time slots during periods when the data channel for circuit switched communications is relatively inactive.

34. A communication system as claimed in claim 33, wherein the data channel for packet switched communications is allocated time slots during lulls in speech data being carried by means of the data channel for circuit switched communications.

35. A communication system as claimed in any of claims 21 to 34, wherein the circuit switched channel is preferably capable of operation via a circuit switched core network of the communication system.

36. A communications system comprising a first station capable of communication with a second station over a wireless channel, data being

carried over the wireless channel in superframes, each superframe comprising a plurality of frames and each frame comprising a plurality of timeslots;

the system having:

a first mode of operation in which a full rate data channel for packet switched communications is defined by the allocation to that data channel of corresponding time slots in each frame;

a second mode of operation in which two half rate data channels for packet switched communications are defined by the allocation to each of those data channels of an equal number of corresponding time slots of frames in each superframe.

37. A communication system as claimed in claim 36, wherein the or each full or half rate data channel for packet switched communications is a streaming, interactive or background channel.

38. A communication system as claimed in claim 36 or 37, wherein the or each full, half or quarter rate data channel for circuit switched communications is a conversational channel.

39. A communication system as claimed in any preceding claim wherein said system has a mode of operation in which said wireless channel comprises first and second sub-channels;

said first sub-channel comprising a half rate data channel for circuit switched communication; and

said second sub-channel comprises a half rate data channel for packet switched communication.

40. A communication system as claimed in any of claims 1 to 39 wherein said system has a mode of operation in which said wireless channel comprises first, second, third and fourth sub-channels each comprising a quarter rate data channel for circuit switched communication.

41. A communication system as claimed in any one of claims 1 to 39 wherein said system has a mode of operation in which said wireless channel comprises first, second and third sub-channels;

said first sub-channel comprising a quarter rate data channel for circuit switched communication;

said second sub-channel comprises a quarter rate data channel for circuit switched communication; and

said third sub-channel comprises a half rate data channel for packet switched communication.

42. A communication system according to any one of claims 1 to 39 wherein said system has a mode of operation in which said wireless channel comprises first, second and third sub-channels; said first sub-channel comprising a quarter rate data channel for circuit switched communication;

said second sub-channel comprises a quarter rate data channel for circuit switched communication; and

said third sub-channel comprises a half rate data channel for packet switched communication.